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FACT SHEET REGARDING ENVIRONMENTAL UPDATES ON ACTION TAKEN AT STUDY  
AREA 36 NORTHWEST NTC ORLANDO FL  
6/1/2004  
NAVFAC SOUTHERN



# Update on Environmental Actions at Study Area 36 Northwest

Naval Training Center  
Orlando, Florida



*This fact sheet was prepared to inform interested citizens about the former Naval Training Center (NTC), Orlando environmental program. Fact sheets will be distributed as needed to keep the community updated on program developments. Additional copies of these fact sheets can be obtained by calling Barbara Nwokike at (843) 820-5566.*

## NTC Orlando's Environmental Program

Environmental studies and cleanup actions are currently underway at the former NTC, Orlando as part of the Department of Defense's Installation Restoration (IR) Program. Through this program, areas of known or suspected contamination from past practices and operations are being identified, evaluated, and, if necessary, cleaned up.

## Study Area 36 Northwest Location and History

One area where work is being performed is in the Baldwin Park Development, formerly the NTC's Main Base (Figure 1), immediately northwest of Study Area 36. SA 36NW refers to the area where petroleum contamination in groundwater migrated from the former Main Base Auto Service Station (Bldg. 109). SA 36 (the former NTC Public Works Yard) has groundwater contaminated with the solvent trichloroethene that is being cleaned up through natural attenuation enhanced with vegetable oil injection.

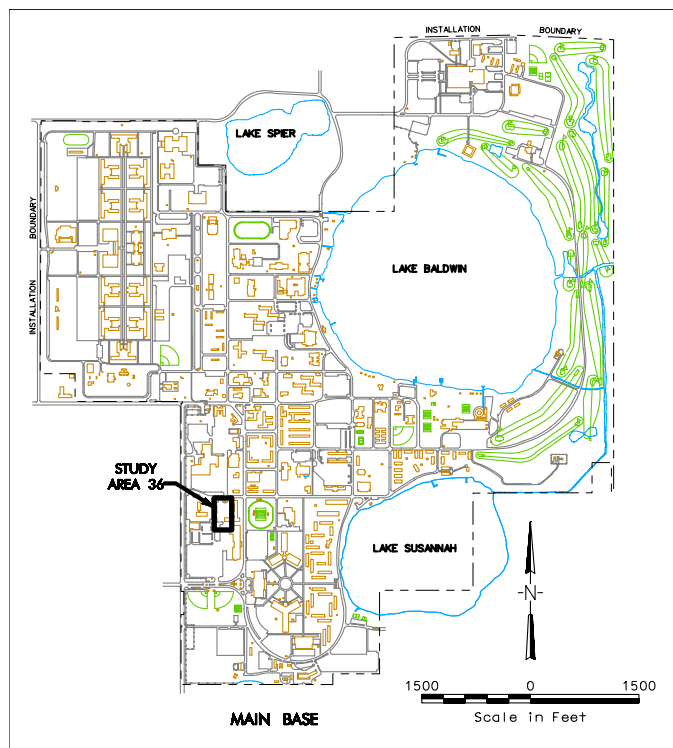


Figure 1. Location Map

Due to transfer of the Navy property to the City of Orlando and redevelopment of the site, all structural features associated with the NTC Main Base no longer exist. Figure 2 shows the current site features along with the former locations of the Main Base Auto Service Station facilities including the former location of underground storage tanks (USTs) used to store unleaded gasoline.

## UST Investigation Results

In November 1993, routine groundwater sampling of compliance wells near the former USTs identified the presence of benzene and total volatile organic aromatics (VOAs) at concentrations above the State of Florida's acceptable levels. Compliance wells are sampled to detect problems associated with USTs.

**Tank Removal, Cleanup, and Replacement.** Petroleum was observed in the excavation during the removal of the three 20,000-gallon USTs in January 1994. Cleanup included a dewatering operation that removed approximately 126,900 gallons of fuel and contaminated water and the removal of approximately 1,115 cubic yards of contaminated soil.

Closure of the base had not yet begun, and 3 new 20,000-gallon, double-walled, fiberglass USTs were installed. The installation also included a concrete secondary containment structure, level indicators, and over-fill protection.

**Environmental Assessment.** Because petroleum contamination was detected during the 1994 tank replacement, a contamination assessment was conducted. The site was investigated from November 7, 1995 to September 19, 1996 to evaluate soil and groundwater conditions at the Auto Service Station. The investigation included both soil and groundwater sampling. Soil samples were collected using hand auger borings. No contaminated soil was identified. Two temporary and two permanent monitoring wells were installed and sampled. No petroleum contamination exceeding Florida target cleanup levels was detected in groundwater. The Florida Department of Environmental Protection (FDEP) approved the site for No Further Action on November 25, 1996.

**Base Closure and Property Transfer.** The multi-phase closure of NTC began in 1995 and was completed in April 1999. The Navy transferred property to the City of Orlando for redevelopment in accordance with Base Realignment and Closure (BRAC) practices. All property must be approved as suitable for transfer in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) prior to the transfer. The property encompassing SA 36NW was classified as an area where only the release or disposal of petroleum products has occurred, meaning no hazardous substances have contaminated the property and the property was then transferred to the City of Orlando in October 1999.

**Main Base Auto Service Station Closure.** In April 1999 when the Main Base Service Station, along with NTC, officially closed, the three 20,000-gallon fiberglass USTs and associated dispenser lines were pumped out. The tanks and lines were later closed in place by filling with sand in March 2000. There were no indications of any petroleum contamination during the UST closure activities. Following tank closure activities, the Orange County Environmental Protection Division concurred that no further assessment was needed for these tanks.

**Additional Investigation.** In April 2002, pre-development activities identified petroleum contaminants in soil and groundwater near the former location of Building 109. Aggressive remedial efforts conducted between July and September 2002 included the recovery and treatment of nearly 3 million gallons of contaminated groundwater and the excavation and disposal of over 2,200 tons of petroleum impacted soil.

The remedial efforts successfully cleaned up the shallow portion of the aquifer (16 feet below ground surface). However, deeper groundwater flowing to the east from the former release at the Main Base Auto Service Station resulted in benzene being detected in monitoring wells associated with the investigation of the chlorinated solvent plume at SA 36.

## Groundwater Plume Investigation

In September 2003 the area and depth of contaminated groundwater at SA 36NW was investigated using direct push groundwater sampling techniques. A system of 7 monitoring wells was then installed to monitor the groundwater plume in the deeper part of the aquifer (35 to 55 feet below ground surface). Results of sampling the wells identified the petroleum contaminants benzene, toluene, ethylbenzene, xylene (BTEX), and methyl-tert-butyl-ether in groundwater at concentrations above the Florida groundwater cleanup target levels.

The Navy has implemented a quarterly groundwater monitoring program that began in March 2004. The first quarter results identified trimethylbenzenes, naphthalene, total petroleum hydrocarbons, sulfate, and

total dissolved solids that exceeded the cleanup target levels in addition to the BTEX contaminants previously detected.

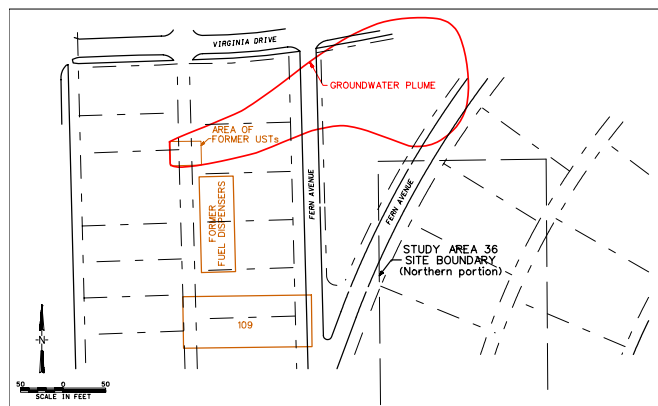


Figure 2. SA 36 Northwest Site Map

## What's Next

The groundwater plume is more than 30 feet below ground and does not pose a threat to human health or the environment. Restrictions are in place to prevent extraction of groundwater (other than for environmental sampling) to protect human health.

The Navy is currently evaluating the use of a Risk Based Corrective Action (RBCA) approach to address the groundwater plume at SA 36NW. A computer model and the environmental data collected in the area will be used to predict the migration of the plume and the concentrations of contaminants over time. Preliminary modeling indicates that the plume will not reach a surface water body and will not migrate much beyond the current location. One reason that a RBCA approach is frequently appropriate for petroleum contamination is because the contaminants will naturally degrade over time to concentrations that are not harmful. However, this approach will only be used if it can be shown that there is no current or likely future risk to human health or the environment.

### What is Benzene?

*Benzene is a colorless liquid that smells like gasoline. It evaporates at room temperature and burns easily. Benzene occurs naturally in coal tar and petroleum. It is also found in commonly used products like paints, inks, gasoline and other motor fuels, and insecticides. People are exposed to benzene by inhaling gasoline vapors, working with carpet glue, varnish, and paints, and through the use of tobacco products.*

## For More Information...

If you have questions about the Navy's action at Study Area 36NW or on the environmental program at the former NTC, Orlando in general, please contact Barbara Nwokike at (843) 820-5566. Reports on the work at the NTC can be reviewed at the Orange County Public Library, **Orlando Branch** (2nd floor), 101 East Central Boulevard, Orlando, Florida 32801 (407) 425-4694.